



## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### Request for Information on Drinking Water Contaminants of Emerging Concern for the National Emerging Contaminant Research Initiative

**AGENCY:** National Institutes of Health, HHS.

**ACTION:** Request for Information.

**SUMMARY:** The National Institutes of Health (NIH), National Institute of Environmental Health Sciences (NIEHS), on behalf of the Office of Science and Technology Policy (OSTP), requests input from all interested parties on research needed to identify, analyze, monitor, and mitigate drinking water contaminants of emerging concern (DW CECs). Comments provided through this Request for Information (RFI) will inform the development of a National Emerging Contaminant Research Initiative (NECRI). The NECRI will be the precursor to Federal coordination of DW CEC research; and agencies will publish external grant solicitations that align with the goals of the NECRI.

**DATES:** This Request for Information is open for public comment for 30 days.

Responses must be received by [INSERT DATE 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*] to ensure consideration.

**ADDRESSES:** Responses to this RFI may be submitted online to [NIEHSCEC@nih.gov](mailto:NIEHSCEC@nih.gov). Email submissions should be machine-readable [PDF, Word] and should not be copy-protected. Submissions should include “RFI Response: Drinking Water Contaminants of Emerging Concern” in the subject line of the email.

Response to this RFI is voluntary. Each individual or organization is requested to submit only one response. Please feel free to respond to one or as many statements as you choose. Responses must not exceed 10 pages in 12 point or larger font (exclusive of

attachments), with a page number provided on each page. Responses should include the name of the person(s) or organization(s) filing the response.

Responses containing references, studies, research, and other empirical data that are not widely published should include copies of or electronic links to the referenced materials. Responses containing profanity, vulgarity, threats, or other inappropriate language or content will not be considered.

Comments submitted in response to this RFI are subject to the Freedom of Information Act (FOIA). Responses to this RFI may also be posted, without change, on a Federal website. Therefore, we request that any proprietary information, copyrighted information, or personally identifiable information be omitted from your response to this RFI.

This RFI is for planning purposes only and should not be construed as a solicitation for applications or proposals, or as an obligation in any way on the part of the United States Federal government. The Federal government will not pay for the preparation of any information submitted or for the government's use. Additionally, the government cannot guarantee the confidentiality of the information provided.

**FOR FURTHER INFORMATION CONTACT:** Questions about this request for information should be directed to Christopher P. Weis, PhD, DABT, National Institute of Environmental Health Sciences (NIEHS), Telephone: 301-496-3512, Email: Christopher.Weis@nih.gov; or David M. Balshaw, National Institute of Environmental Health Sciences (NIEHS), Telephone: 984-287-3234, Email: balshaw@niehs.nih.gov.

**SUPPLEMENTARY INFORMATION:** Drinking water contaminants of emerging concern (DW CECs) are newly identified or re-emerging manufactured or naturally occurring physical, chemical, biological, radiological, or nuclear materials that may cause adverse effects to human health or the environment and do not currently have a national primary drinking water regulation. Through this RFI, NIH/NIEHS seeks input from non-

governmental entities (e.g., industry, academia, civil society), State and local governments, and other institutions with scientific and material interest in DW CEC research. Comments provided in response to this RFI will inform the development of a National Emerging Contaminant Research Initiative (NECRI) for protection of U.S. drinking water quality. Responses may also be used to address requests from the 2021 National Defense Authorization Act to identify research questions and priorities in the area of sustainable chemistry. The initiative will build on the National Science and Technology Council's (NSTC) cross-agency Plan for Addressing Critical Research Gaps Related to Emerging Contaminants in Drinking Water published in 2018. The NECRI will be the precursor to Federal coordination of DW CEC research; and, in compliance with the NDAA for Fiscal Year 2020, Title LXXIII, Subtitle D, Sections 7341 and 7342, agencies will "issue a solicitation for research proposals consistent with the Federal research strategy and that agency's mission."

Contaminants of emerging concern may be present in drinking water and in some cases have been shown to cause adverse effects on human health. The 2020 NDAA instructed Office of Science and Technology Policy (OSTP) to establish the NECRI to improve the "identification, analysis, monitoring, and treatment methods of contaminants of emerging concern" and subsequently develop "any necessary program, policy, or budget" to further DW CEC research. The 2020 NDAA also directs the Administrator of the U.S. Environmental Protection Agency (EPA) and the Secretary of Health and Human Services (HHS) to establish an Interagency Working Group on Contaminants of Emerging Concern (CEC IWG) to facilitate coordination of Federal research on CEC. OSTP collaborated with the CEC IWG to identify approaches, tools, and methods to accelerate DW CEC research, and metrics and indicators to assess progress in reaching the goals of the NECRI.

## **Information Requested**

This RFI requests feedback on two sections: the need for coordination of efforts and the scientific focus of a DW CEC effort. Respondents are free to address one or both of the sections listed below and respond to as many items in each section as they choose, while remaining within the 10-page limit, exclusive of attachments.

**Section 1 – Feedback on Improving and Coordinating DW CEC Efforts:** This RFI requests feedback on methods to focus and coordinate DW CEC research efforts. Please consider how U.S. Government and external stakeholder action could contribute to DW CEC research, take advantage of emerging science and technology opportunities, measure outcomes, and develop a DW CEC research initiative with the goal to provide safe drinking water for the American people. Please comment on:

1. Barriers that prevent or limit you or your organization's DW CEC research capabilities and success.
2. Potential opportunities to improve coordination and partnership among public and private entities participating in DW CEC research and prevent unnecessarily duplicative efforts.
3. The types of outreach efforts most useful to communicate DW CEC research results for impacted Federal, State, local, and Tribal communities. Please provide examples where possible.
4. Metrics or indicators that you or your organization adopted to measure the success of your DW CEC research or other related research efforts.
5. Metrics or indicators that would be valuable in measuring the success of a National DW CEC research initiative.
6. As an affected community member, the most significant concerns and recommendations for DW CECs.

**Section 2 – Feedback on DW CEC Research Areas:** This RFI requests feedback on needs for broad areas of DW CEC research (detailed below) and research needed for shaping the NECRI.

**DW CEC Research Areas:**

Below are descriptions of four areas of DW CEC research identified by the CEC IWG.

When submitting your feedback, please indicate which DW CEC research area(s) you are responding to.

**Research Area 1: Exposure**

Exposure to DW CECs can occur through ingestion, inhalation, or dermal routes.

Exposure-related research includes contaminant identification and monitoring from source-to-tap and informs downstream efforts to understand the biological effects of CEC exposures, characterize their risk, and develop mitigation tools. Monitoring can be performed routinely to assess water composition, during acute exposure events, or to estimate the effect of CEC mitigation efforts. Exposure science includes efforts to estimate the type and concentration of contaminants through a range of activities from targeted analysis of specific CEC, non-targeted analysis for the discovery of unknown CEC, and modeling activities. Please include thoughts on identification and measurement tools, such as sensors, to conduct analyses.

**Research Area 2: Human Health and Environmental Effects**

Emerging contaminants may cause adverse effects on human health and the environment.

Biological effects research encompasses the identification and characterization of these adverse effects, including factors that influence susceptibility to disease or dysfunction.

Research tools may include *in-silico* and receptor-based approaches, predictive modeling, new toxicological assessments, and data analytics strategies. In the context of this research initiative, environmental effects research considers indicators of adverse human health effects.

### **Research Area 3: Risk Characterization to Inform Risk Mitigation**

Risk characterization synthesizes available information and communicates uncertainty about exposure, biological effects, and other relevant considerations to inform risk mitigation actions. Risk mitigation actions include research into preventative approaches such as source reduction. Sustainable chemistry efforts may also fall into risk mitigation actions. In addition, treatments, technological development and application, and other interventions may also be considered to reduce or otherwise mitigate risk for individual, mixtures, or classes of CEC.

### **Research Area 4: Risk Communication**

Risk communication relays information to relevant groups about risks to human health and actions that could address those risks. The scope of relevant groups includes those affected by exposures, the general public, decision makers, scientists, industry, and other technical experts. Risk communication research includes techniques and media formats used to inform stakeholder groups and studies on the psychosocial aspects of risks, such as general perceptions of risk, the adoption of risk reduction behaviors, and perceptions framed by scientific controversy or misinformation.

The following statements are provided to obtain feedback to fill existing gaps in DW CEC knowledge and practice in these research areas. Please comment on:

1. The critical, impactful research questions and topics that should be addressed in order to better protect American public health in regard to DW CEC.
2. Research priorities within each of the four areas described below.
3. New or innovative tools, technologies, software, modeling, methods, data/information sharing, etc. that should be developed or employed to address these research areas.

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Dated: May 19, 2021.

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